

DEVELOPING WEBSITES FOR USER INCLUSIVITY

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DEVELOPING FOR OTHERS

It's easy to assume that all users can interact with web sites and page content the same that way you do.

This can lead to experiences that work well for some people, but not for everyone

Websites, tools, and technologies should be designed and developed so that all users should be able to:

- Perceive
- Understand
- Navigate
- Interact with the Web



WHAT IS WEB ACCESSIBILITY?

To have an accessible website means that the site gives alternatives to users who may not be able to understand content or use a piece of functionality due to a temporary, conditional, or long term disability.

To put it simply: “When a site is accessible, the site's content is available, and its functionality can be operated, by literally *anyone*” – Google

Web accessibility encompasses all disabilities that affect access to the Web, including: Auditory, Cognitive, Neurological, Physical, Speech, and Visual.

Web accessibility also benefits people *without* disabilities too.

Making websites accessible helps everybody!



ADDITIONAL ADVANTAGES: IMPROVED USER EXPERIENCE

In the process of making your site accessible, the interface that you will design will be operable and consistent, which improves overall user experience.

You can broaden your reach to new customers who might not have been able to use your site.

- There are over **56 million** people in the United States (nearly **I in 5**) and over 1 billion people worldwide who have a disability – U.S., Census Bureau

You are less likely to be sued by users those who cannot navigate your site.

- In 2017, there were **814 website accessibility lawsuits filed** in federal and state courts – ADA Title III



ADDITIONAL ADVANTAGES: IMPROVED SEO

The following steps taken to improve web accessibility also help with Search Engine Optimization (SEO):

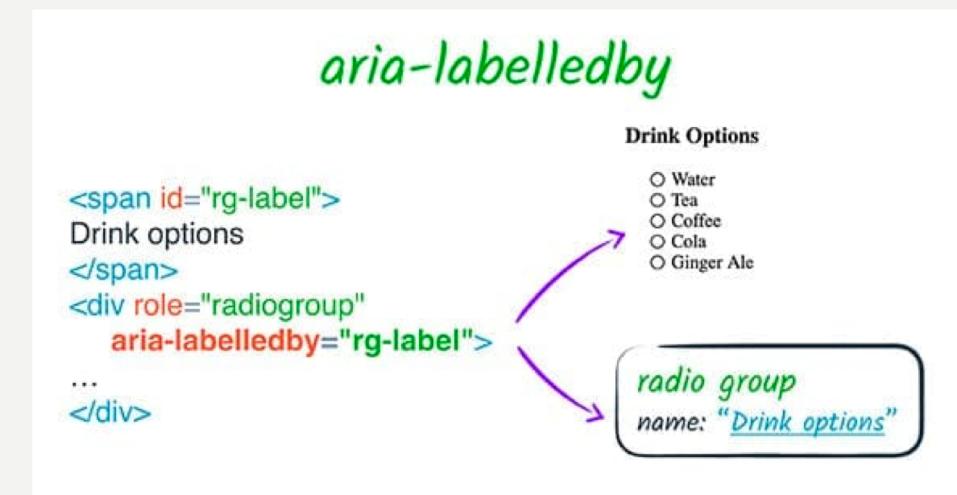
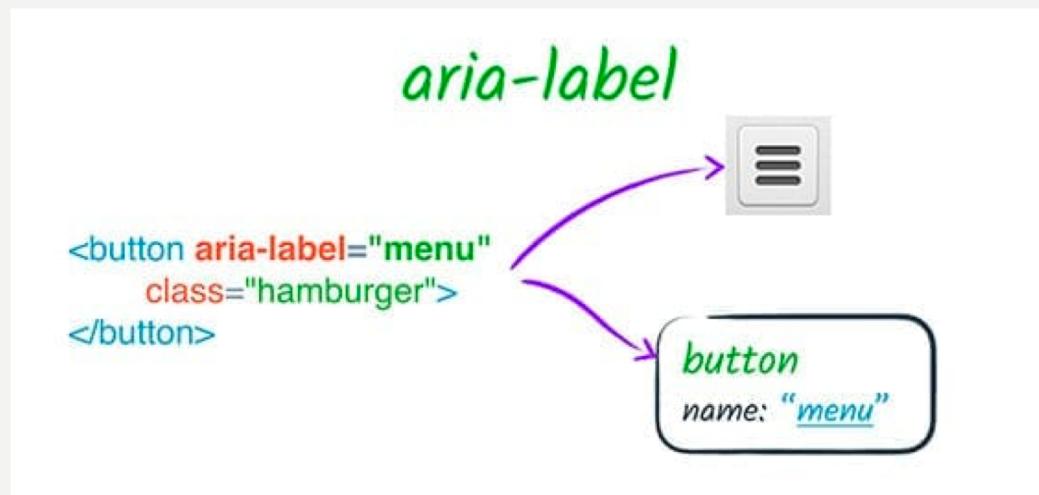
- Video transcription
- Image captioning and alt attributes
- Content ordering
- Title and Header tags (H1, H2, etc.)
- Link anchor text
- On-site sitemaps, table of contents, and/or breadcrumbs



COMMON ACCESSIBILITY SOLUTIONS: ARIA TAGS

ARIA stands for **A**ccessible **R**ich **I**nternet **A**pplications

Aria tags are a simple set of HTML attributes that supplement HTML so that interactions and widgets commonly used in applications can be passed to Assistive Technologies when there is not otherwise a mechanism – MDN Web Docs



COMMON ACCESSIBILITY SOLUTIONS: ALT TAGS

Alternative text can be added to images so that screen readers and search engines can understand what the image is portraying

The following are some examples of what the caption might be for the rooster to the right:

- **Okay alt text:**
- **Better alt text:**
- **Best alt text:**



COMMON ACCESSIBILITY SOLUTIONS: HEADER TAGS

Header tags not only include styles that show a user, visually, the importance of the section but it also provides the same information to screen readers and search engines.

By ordering headers correctly from largest to smallest, a natural flow of information can be seen by the user and will ensure that someone listening with a screen reader will not feel as though they have missed a section.

Document title `<h1>`

Lore ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Important heading `<h2>`

Lore ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Less important heading `<h3>`

Lore ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

WEB CONTENT ACCESSIBILITY GUIDELINES (WCAG)

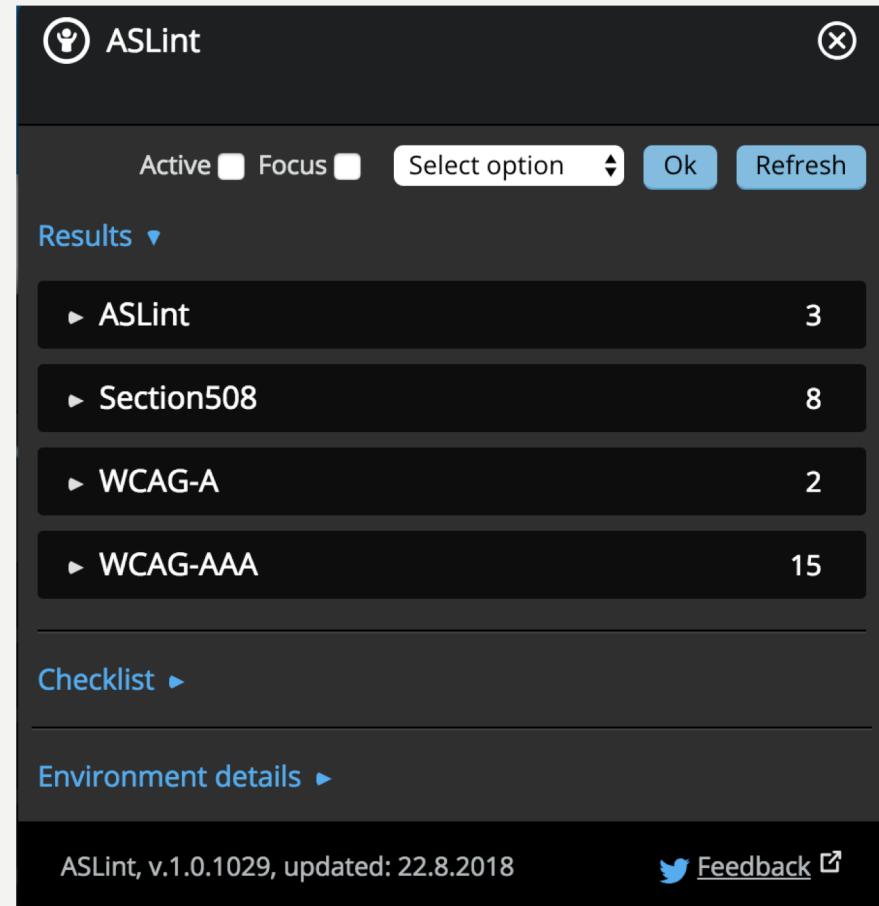
- Web Content Accessibility Guidelines (WCAG) is developed by experts and organizations world wide, with a goal of providing a shared standard for web content accessibility that meets the needs of individuals, organizations, and governments internationally.
- The WCAG documents explain how to make web content more accessible to people with disabilities

A blue circular icon containing the text "WCAG 2.0".

WCAG
2.0

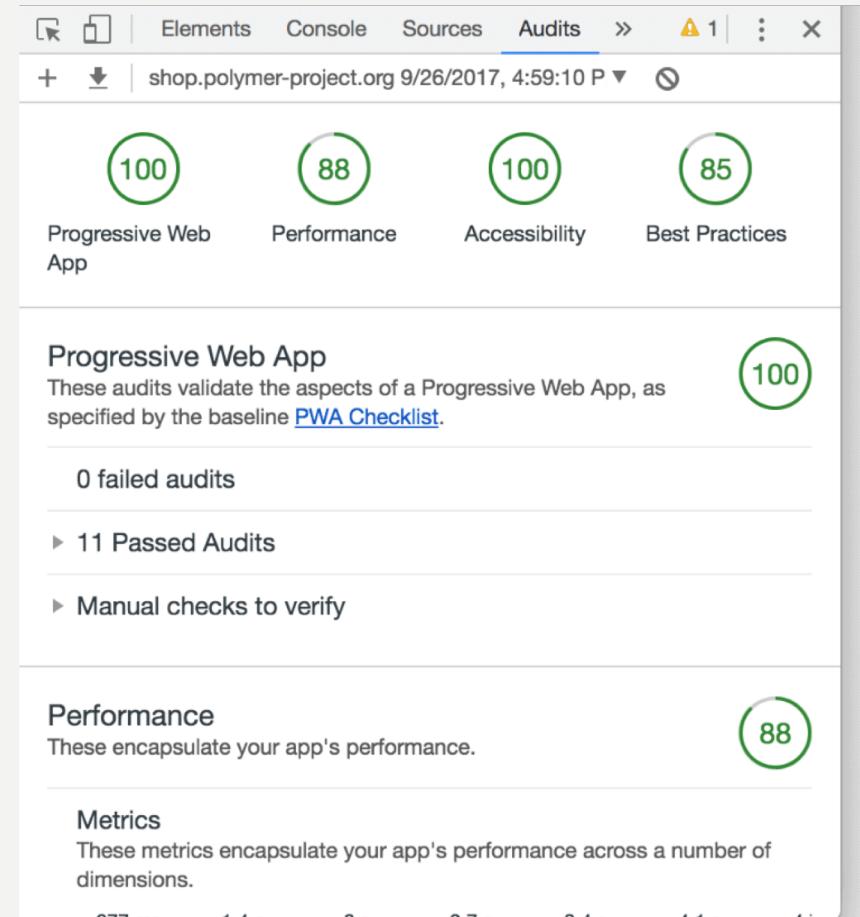
TOOLS: ASLINT

- ASLint: www.aslint.org
- Verify accessibility of your content in **real-time**, including SPAs.
- Provides a [code snippet](#) to add to build pipeline (e.g. for **automation tests**) or developer console, or can run as a bookmarklet.
- Easy to locate issues on the page from the results using the element detector feature
- Provides color contrast recommendations
- Provides checklist for things that can't be tested automatically.



TOOLS: GOOGLE LIGHTHOUSE

- Google Lighthouse:
developers.google.com/web/tools/lighthouse
- Runs audits on your site for aria tag usage, alternative text and element labeling
- Provides metrics and information about passed and failed checks
- Can be used in the browser or with the command line interface (CLI):
 - npm install -g lighthouse
 - lighthouse <url>



The screenshot shows the Google Lighthouse audit results for the URL `shop.polymer-project.org` at 9:26/2017, 4:59:10 P. The top navigation bar includes Elements, Console, Sources, Audits (selected), and a warning icon showing 1 issue. Below the navigation is a summary section with four green circles containing scores: 100 for Progressive Web App, 88 for Performance, 100 for Accessibility, and 85 for Best Practices.

Progressive Web App
These audits validate the aspects of a Progressive Web App, as specified by the baseline [PWA Checklist](#).
100

0 failed audits
▶ 11 Passed Audits
▶ Manual checks to verify

Performance
These encapsulate your app's performance.
88

Metrics
These metrics encapsulate your app's performance across a number of dimensions.

677 ms 1.1 0 0.7 0.4 1.1 1

ADDITIONAL RESOURCES

- WCAG: www.w3.org/WAI/standards-guidelines/wcag
- WUHCAG Checklist: www.wuhcag.com/wcag-checklist
- Google: developers.google.com/web/fundamentals/accessibility
- ASLint: www.aslint.org